

A. AMENDMENTS TO THE CLAIMS

WHAT IS CLAIMED IS:

a 1. (Original) An out-of-band security system for granting and denying access to a host computer, said access in response to a demand from an accessor for access to the host computer, said accessor having an associated telephonic device for providing communications to the security system, a login identification accompanying said demand from an accessor for access to the host computer, interception means for receiving and verifying said login identification and transferring authentication of the accessor to said out-of-band security system, said out-of-band security system comprising:

a security computer adapted to receive said demand for access together with said login identification and to communicate with said host computer and with said associated telephonic device of said accessor;

a callback device operable in response to instructions from said security computer to call the accessor;

a subscriber database addressable by the security computer for retrieval of telephone numbers corresponding to said login identification;

said security computer adapted to provide callback instructions to said callback device to connect said associated telephonic device of said accessor to said security computer;

a' prompt means for instructing said accessor to re-enter predetermined data at and retransmit predetermined data from said associated telephonic device to said out-of-band security system;

comparator means in said security computer for authenticating access demands in response to retransmission of predetermined data from said associated telephonic device of said accessor; and,

said security computer, upon verifying a match between said predetermined data and the re-entered and retransmitted data, providing authentication of the accessor and instructing the host computer to grant access thereto.

2. (Original) An out-of-band security system as described in Claim 1 wherein: said callback device is a telephone; said associated telephonic device of said accessor is a tone generating instrument with a keypad for entering data; and, said prompt means is an auditory message describing data to be entered.

3. (Original) An out-of-band security system as described in Claim 2 wherein said security computer further comprises:

an announcement database therewithin; and

a voice module capable of selecting a prerecorded auditory message from said announcement database and, for prompting the entry of data by said accessor, playing said prerecorded auditory message over said telephone.

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4. (Original) An out-of-band security system as described in Claim 3 wherein, upon attaining an access-granted condition said security computer communicates the status to said accessor by selecting and transmitting an access-granted message from said announcement database and sequentially disconnecting from the connection with said telephone.

5. (Original) An out-of-band security system as described in Claim 2 wherein said security computer further comprises:

a voice module, in response to instructions from said security computer, capable of synthesizing an auditory message, and, for prompting the entry of data by said accessor, playing a synthesized auditory message over said telephone.

6. (Original) An out-of-band security system as described in Claim 5 wherein said out-of-band security system further comprises:

an announcement database therewithin and, upon attaining an access-granted condition, said security computer communicates the status to said accessor by selecting and transmitting an access-granted message from said announcement database and sequentially disconnecting from the connection with said telephone.

7. (Original) An out-of-band security system as described in Claim 1 wherein said out-of-band security system further comprises:

as a voice recognition program operating in response to instructions from said security computer to authenticate the accessor;

a speech database addressable by the security computer for retrieval of a speech sample of an accessor corresponding to the login identification of said accessor, said computer adapted to provide instructions to connect and disconnect said security computer to and from said associated telephonic device of said accessor;

voice sampling means for instructing said accessor to repeat back and transmit a predetermined auditory statement over said associated telephonic device to said security computer;

voice recognition means in said security computer for authenticating access demands in response to transmission of said predetermined auditory statement received over said associated telephonic device of said accessor; and,

said security computer, upon authenticating a match between the predetermined auditory statement and the transmitted voice data, providing authentication of the accessor and instructing the host computer to grant access.

8. (Original) An out-of-band security system for granting and denying access to a web server, said access in response to a

demand for access to said web server from an accessor, said accessor having an associated telephonic device for providing communications to said out-of-band security system, said demand presenting an identification number and password of said accessor, said security system comprising:

interception means for receiving and verifying said identification number and password;

A a security computer receiving from said interception means said verification of said accessor together with said identification number thereof, said security computer structured to communicate with said web server and with said telephonic device associated with said accessor, said computer adapted to provide instructions to connect and disconnect said security computer to and from said associated telephonic device of said accessor;

an authentication program means, operating out-of-band of said web server, for authenticating an individual demanding access to said web server;

a biometric analyzer operating in response to instructions from said authentication program means to analyze a monitored parameter of said individual;

a biometric parameter database addressable by the biometric analyzer for retrieval of a previously registered sample of said individual, said sample corresponding to the identification number of said accessor;

sampling means for instructing said accessor to provide and transmit a predetermined entry of said monitored parameter over

said associated telephonic device to said biometric analyzer;

comparator means in response to a matching analysis between the characteristics of said sample and of said transmission of said predetermined entry of said individual for providing authentication to said security computer; and,

a! said security computer, upon authenticating a match between the predetermined entry and the sample, providing authentication of the accessor and instructing the web server to grant access.

9. (Original) An out-of-band security system as described in Claim 8 wherein said authentication program is a voice recognition program, said biometric analyzer is a speech pattern analyzer, and said monitored parameter is a speech pattern of said individual.

10. (Original) An out-of-band security system as described in Claim 9 wherein said security computer further comprises:

an announcement database therewithin; and

a voice module capable of selecting a prerecorded auditory message from said announcement database and, for prompting the entry of a predetermined voiced statement by said individual, playing said prerecorded auditory message over said associated telephonic device.

11. (Original) An out-of-band security system as described in **Claim 10** wherein, upon attaining an access-granted condition said security computer communicates the status to said accessor by selecting and transmitting an access-granted message from said announcement database and sequentially disconnecting from the connection with said associated telephonic device.

a' 12. (Original) An out-of-band security system as described in **Claim 11** further comprising a voice sampling means for instructing said individual to repeat back and transmit a predetermined auditory statement over said associated telephonic device to said security computer.

13. (New) An out-of-band security system for granting and denying access to a host computer, said access in response to a demand from an accessor for access to the host computer, said accessor having an associated telephone for providing communications to the security system, a login identification accompanying said demand from an accessor for access to the host computer, interception means for receiving and verifying said login identification and transferring authentication of the accessor to said out-of-band security system, said out-of-band security system comprising:

a security computer adapted to operate out-of-band in receiving said demand for access together with said login

identification and in communicating with said associated telephone of said accessor and to separately operate in-band, in communicating with said host computer;

a keypad of said associated telephone of said accessor with tone generating capability for entering data;

a callback device operable in response to instructions from said security computer to call said associated telephone of said accessor;

a subscriber database addressable by the security computer for retrieval of telephone numbers corresponding to said login identification;

said security computer adapted to provide callback instructions to said callback device to connect said associated telephone of said accessor to said security computer;

an auditory message prompting said accessor to enter predetermined data at and retransmit predetermined data from said associated telephonic device to said out-of-band security system;

comparator means in said security computer for authenticating access demands in response to retransmission of predetermined data from said associated telephonic device of said accessor; and,

said security computer, upon verifying a match between said predetermined data and the entered and retransmitted data, providing authentication of the accessor and instructing the host computer to grant access thereto.

14. (New) An out-of-band security system as described in Claim 13 wherein said security computer further comprises:

an announcement database therewithin; and

a voice module capable of selecting a prerecorded auditory message from said announcement database and, for prompting the entry of data by said accessor, playing said prerecorded auditory message over said telephone.

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15. (New) An out-of-band security system as described in Claim 14 wherein, upon attaining an access-granted condition said security computer communicates the status to said accessor by selecting and transmitting an access-granted message from said announcement database and sequentially disconnecting from the connection with said telephone.

16. (New) An out-of-band security system as described in Claim 13 wherein said security computer further comprises:

a voice module, in response to instructions from said security computer, capable of synthesizing an auditory message, and, for prompting the entry of data by said accessor, playing a synthesized auditory message over said telephone.

17. (New) An out-of-band security system as described in Claim 16 wherein said out-of-band security system further

comprises:

an announcement database therewithin and, upon attaining an access-granted condition, said security computer communicates the status to said accessor by selecting and transmitting an access-granted message from said announcement database and sequentially disconnecting from the connection with said telephone.

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18. (New) An out-of-band security system as described in Claim 13 wherein said out-of-band security system further comprises: a voice recognition program operating in response to instructions from said security computer to authenticate the accessor; and,

a speech database addressable by the security computer for retrieval of a speech sample of an accessor corresponding to the login identification of said accessor, said computer adapted to provide instructions to connect and disconnect said security computer to and from said associated telephone of said accessor.

19. (New) An out-of band security system as described in Claim 18 wherein said out-of-band security system further comprises:

voice sampling means for instructing said accessor to repeat back and transmit a predetermined auditory statement over said associated telephone to said security computer;

voice recognition means in said security computer for

authenticating access demands in response to transmission of said predetermined auditory statement received over said associated telephonic device of said accessor; and,

a' said security computer, upon authenticating a match between the predetermined auditory statement and the transmitted voice data, providing authentication of the accessor and instructing the host computer to grant access.

B. AMENDMENT TO PAGE 10 OF THE SPECIFICATION

system shown in FIG. 3;

FIG. 8 is a detailed schematic diagram of the software program required for the database module of the security system shown in FIG. 3;

FIG. 9A through 9E is a flow diagram of the software program required for the security system shown in FIG. 1; and,

FIG. 10 is a schematic diagram of a second embodiment of the security system of the present invention as applied to the intranet in which an internal accessor in a local area network seeks entry into a restricted portion of the host system.

DESCRIPTION OF THE PREFERRED EMBODIMENT

The out-of-band security system networks for computer network applications is described in two embodiments. The first describes an application to a wide area network, such as the internet, wherein the person desiring access and the equipment used thereby are remote from the host computer. An "out-of-band" operation is defined herein as one conducted without reference to the host computer or any database in the host network. The second embodiment describes the application of the disclosed invention to a local area network wherein the person desiring access and the equipment used thereby are within the same network (referred to as the "corporate network") as the host computer. For purposes of this description the person desiring access and the equipment used thereby are referred collectively as the "accessor".